



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/639,828

08/12/2003

Robert A. Wind

14073-E

7897

29171

7590

11/04/2004

BATTELLE MEMORIAL INSTITUTE  
ATTN: IP SERVICES, K1-53  
P. O. BOX 999  
RICHLAND, WA 99352

EXAMINER

SHRIVASTAV, BRIJ B

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/639,828

Applicant(s)

WIND ET AL.

Examiner

Brij B Shrivastav

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☒ Claim(s) 13, 14, 19 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/12/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) The use of phrase – “adapted to” – in claim 1, renders the claim indefinite.

b) Step “a” of claim 1, does not clear state about what is being supported by the supporting member.

c) The use of phrase “a said” several times in steps “b”, “c” and “d” confuses reader for the number of support members present in the probe.

Applicant is advised to provide corrections for the 112 problems stated above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 9-12, 15-18, 20-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cory et al (US 5,872,452), and further in view of Wind et al –

Art Unit: 2859

High Resolution  $^1\text{H}$  Spectroscopy in Organs and Tissues Using Slow Magic Angle Spinning; 46: 213-218 (2001).

As regards to claim 1, Cory et al teach a magnetic resonance imaging spinning probe having at least one supporting member (figures 1-3, numeral 12; column 6, lines 26-42), a shielding member mounted to the supporting member (figure 1, numeral 17; column 5, lines 60-67), RF circuit coils and at least one gradient assembly having a plurality of gradient coils, and housed within the shielding member (figure 1-3, and 5-6 numeral 14; column 1-2, lines 36-67 and 1-53, column 5, lines 18-67). Further, Cory et al teach a rotor assembly in alignment with the gradient coils and RF coils of the probe to spin a specimen and which is being driven by a driving assembly, wherein the rotor assembly rotates about an axis positioned at a magic angle of 54.44 degrees relative to an applied magnetic field  $B_0$  (figure 3, lines 18, 20, 22, etc; column 2, lines 54-67, column 5, lines 44-52 and column 7, lines 48-67). However, Cory et al do not teach spin speeds to spin the specimen of less than 100Hz to qualify the probe as a slow magic angle spinning probe. Wind et al teach spin speeds to spin the specimen of less than 100Hz, qualifying the probe as a slow magic angle spinning probe (see abstract and the title; figures 1-2).

It would have been obvious to one of ordinary skill in the art to adapt magnetic resonance imaging slow magic angle spinning probe of Wind et al in place of the magnetic resonance imaging magic angle spinning probe of Cory et al to acquire improved spin resonance data improving image quality and for use in biological samples.

Art Unit: 2859

As regards to claims 2-4, 9, 18, 23, Cory et al further meet the limitations expressed in these claims (figures 3-6; column 9, lines 5-23; column 5-6, lines 16-67 and 1-25).

As regards to claims 10-12, 15-17, 20-23 and 25-27. Cory et al do not teach limitations expressed in these claims. However, Wind et al teach these claim limitations (figures 1-6). It would have been obvious to one of ordinary skill in the art to adapt Wind et al's teaching with the teaching of Cory et al to make the probe more versatile for different experimental situations.

3. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cory et al (US 5,872,452), and Wind et al –High Resolution 1H Spectroscopy in Organs and Tissues Using Slow Magic Angle Spinning; 46: 213-218 (2001), as applied to claim 1, and further in view of Muller et al (US 5,298,864).

As regards to claims 5-8, Neither, Cory et al nor Wind et al further teach limitations related to an optical detection system. Muller et al teach these limitations (figure 1, numeral 40). It would have been obvious to one of ordinary skill in the art to adapt optical detection system of Muller et al with the combined probe assembly of Cory et al and Wind et al to improve adjustments and working of the probe for MR imaging.

***Allowable Subject Matter***

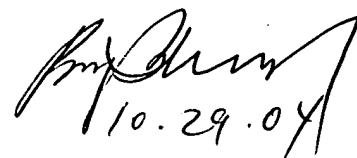
4. Claims 13, 14, 19 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brij B Shrivastav whose telephone number is 571-272-2250. The examiner can normally be reached on 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

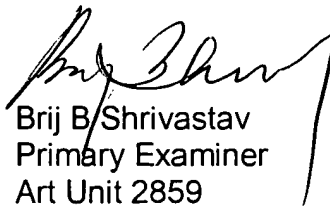
  
10.29.04

Application/Control Number: 10/639,828

Page 6

Art Unit: 2859

October 29, 2004

  
Brij B. Shrivastav  
Primary Examiner  
Art Unit 2859

\*\*\*